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August 14, 2002

Marlene H. Dortch, Secretary
Federal Communications Commission
Washington, DC 20554

Re: Written *Ex Parte* Presentation
WT Docket No. 01-309
Hearing Aid Compatible Telephones

Dear Ms. Dortch:

Submitted herewith electronically is an *ex parte* written communication from the **Hearing Industries Association** concerning matters at issue in the above-referenced rule making proceeding.

If there are any question about this submission, please contact the undersigned.

Very truly yours,

Peter Tannenwald

cc: (via e-mail)
Mr. George Devilbiss
Mr. David E. Woodbury, Jr.
Mindy Littell, Esq.
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August 14, 2002

Marlene H. Dortch, Secretary
Federal Communications Commission
Washington, DC 20554

Re: *Ex Parte* Written Communication
WT Docket No. 01-309

Dear Ms. Dortch:

I am writing in response to an oral *ex parte* communication in this proceeding, made to the Commission's Staff on April 4, 2002, by George DeVilbiss, memorialized in a letter filed April 17, 2002, and a written *ex parte* communication made by Mr. DeVilbiss on July 25, 2002. Mr. DeVilbiss' communications addressed compatibility between digital cellular and PCS handsets and hearing aids.

The problem of interference to hearing aids is well known and was discussed in the Hearing Industries Association's (HIA) written comments and reply comments in this proceeding, as well as in comments filed by other parties. Mr. DeVilbiss asserts, and HIA agrees, that the problem should be addressed on both sides, by both handset manufacturers and hearing aid manufacturers. However, Mr. DeVilbiss has overstated the potential benefits of shielding in hearing aids, and the Commission should not assume that increased shielding is possible or practical to an extent that will solve the problem.

Hearing aid manufacturers have incorporated shielding and have introduced other measures that have significantly improved the immunity of their products to interference from digital radiofrequency emissions. Indeed, HIA's comments in this proceeding explained that improvements in the order of 15 dB have been achieved. However, shielding technology cannot be deployed and improved without limits, because of the design of hearing aids, which requires breaches in the shielding for external controls, and because of the demands of users for increasing miniaturization for cosmetic reasons.

A hearing aid must have openings for such things as battery insertion, a volume control, trimmers, and a programming connector. Even where adjustments are made by remote control, a feature available only in very high end products, which are not accessible or even desired by all consumers, there is no hearing aid without any opening. Any opening requires a breach that can significantly compromise the performance of shielding.

Miniaturization is also an important issue, and the continued demand for smaller and cosmetically inconspicuous in-the-ear (ITE) hearing aid models requires construction techniques that make effective shielding difficult. For example, in the effort to fit components into ever-smaller enclosures, some circuitry touches the inner wall of the shell. If the inner wall were completely coated with metal shielding, the circuitry would be short-circuited. Shielding, even where it is usable, is also breached where the inside of a custom-fitted shell is ground away to make room for components. It must be remembered that the shell of an ITE hearing aid is custom-shaped to each individual user's ear. Manufacturers cannot design circuitry to fit a fixed-shape enclosure, because the enclosure is shaped differently for each unit. Custom assembly means unpredictable results from one unit to the next.

Finally, the plastics used in hearing aid manufacture are low temperature materials that cannot always be coated with metallic material in-house. Sending units out to contractors who can bind metal to low temperature plastic will increase the cost to consumers of a product that is not inexpensive to begin with and will also destroy the ability of manufacturers to provide the 24-hour turn-around time that customers often demand.

Hearing aid manufacturers do not disregard available shielding techniques. However, any legally compelled increase in the use of shielding will likely be impractical, if not impossible to achieve; will stifle the development of new and improved hearing aids that are smaller in size and have new operational features; and will introduce additional cost and delay in delivering hearing aids to customers. HIA urges the Commission to recognize the significant improvement in immunity that hearing aid manufacturers have already achieved and not to adopt measures that will degrade the products and services available to hearing impaired users.

The problem of interference from digital handsets to hearing aids is not insoluble, and there is room for improvement. Because of the demands of their customers, hearing aid manufacturers will continue to improve the immunity of their products as much as they can without any need for regulatory intervention. There are also promising handset developments, including new directional antennas that can contribute significantly to a solution; these developments should be encouraged with all of the tools available to the Commission.

Respectfully submitted,

Carole M. Rogin
Executive Director